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14. (AMENDED) The method of claim 12, wherein E is selected from the group consisting of somatostatin receptor binding molecules, heat sensitive bacterioendotoxin receptor binding molecules, neurotensin receptor binding molecules, bombesin receptor binding molecules, cholecystekinin receptor binding molecules, and steroid receptor binding molecules; L and X are independently selected from the group consisting of - (R⁵)NOC-, and -(R⁵)NOCCH₂O -; DYE is a cyanine; R¹ to R⁵ are independently selected from the group consisting of hydrogen, C1-C10 alkyl, C5-C10 aryl, and C1-C10 polyhydroxyalkyl; and Ar is an aromatic benzene radical.

ABSTRACT

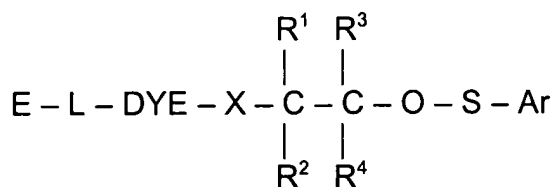
The Abstract has been amended as follows:

CYANINE-SULFENATES FOR DUAL PHOTOTHERAPY

ABSTRACT

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Dye-sulfenate derivatives and their bioconjugates for dual phototherapy of tumors and other lesions. The compounds comprise sulfenates having the formula,



where E is selected from the group consisting of somatostatin receptor binding molecules, heat sensitive bacterioendotoxin receptor binding molecules, neurotensin receptor binding molecules, bombesin receptor binding molecules, cholecystekinin receptor binding molecules, steroid receptor binding molecules, and carbohydrate

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receptor binding molecules, and dihydroxyindolecarboxylic acid; L and X are independently selected from the group consisting of $-(R^5)NOC-$, $-(R^5)NOCCH_2O-$, $-(R^5)NOCCH_2CH_2O-$, $-OCN(R^5)-$, $-HNC(=S)NH-$, and $HNC(=O)NH-$; DYE is an aromatic or a heteroaromatic radical derived from the group consisting of cyanines, indocyanines, phthalocyanines, rhodamines, phenoxazines, phenothiazines, phenoselenazines, fluoresceins, porphyrins, benzoporphyrins, squaraines, corrins, croconiums, azo dyes, methine dyes, indolenium dyes, crellins, and hypocrellins; R^1 to R^5 are independently selected from the group comprising hydrogen, C1-C10 alkyl, C5-C10 aryl, C1-C10 polyhydroxyalkyl, and C1-C10 polyalkoxyalkyl; and Ar is an aromatic or heteroaromatic radical derived from the group consisting of benzenes, naphthalenes, naphthoquinones, diphenylmethanes, fluorenes, anthracenes, anthraquinones, phenanthrenes, tetracenes, naphthacenediones, pyridines, quinolines, isoquinolines, indoles, isoindoles, pyrroles, imidazoles, oxazoles, thiazoles, pyrazoles, pyrazines, purines, benzimidazoles, furans, benzofurans, dibenzofurans, carbazoles, acridines, acridones, phenanthridines, thiophenes, benzothiophenes, dibenzothiophenes, xanthenes, xanthonenes, flavones, coumarins, and anthacyclines. The compounds are designed to produce both Type 1 and Type 2 phototherapeutic effects at once using a dual wavelength light source that will produce singlet oxygen and free radicals at the lesion of interest.
